

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

YONGGANG DU

PHD 96,135A

Serial No.

Group Art Unit:

Filed: CONCURRENTLY

Examiner:

Title: ASYNCHRONOUS TRANSFER MODE LOCAL AREA NETWORK HAVING A RING  
STRUCTURE WITH WIRELESS TERMINALS

Commissioner for Patents  
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

In response to the Office Action dated January 12, 2001 AND  
THE Notice of Allowance dated July 3, 2001, issued on parent Patent  
Application No. 08/920,750, please amend the application as  
follows:

IN THE SPECIFICATION

Page 1, in the paragraph beginning on line 1, change as follows:

BACKGROUND OF THE INVENTION

The invention relates to a local area network operating in the  
asynchronous transfer mode (ATM) for transmitting cells, comprising  
a plurality of network interfaces coupled to a ring by ring  
connections, each network interface including a switch.

Page 1, in the paragraph beginning on line 27, change as follows:

#### SUMMARY OF THE INVENTION

It is an object of the invention to provide a flexible local area network operating in the asynchronous transfer mode.

Page 4, in the paragraph beginning on line 12, change as follows:

#### BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

Fig. 1 shows a local area network,

Fig. 2 shows a network interface which can be used in the local area network shown in Fig. 1,

Fig. 3 shows a terminal coupled by a radio channel to a network interface shown in Fig. 2,

Fig. 4 shows a radio device in a network interface shown in Fig. 2 or in a terminal shown in Fig. 3, and

Fig. 5 shows various switch modes of a switch included in a network interface shown in Fig. 2.

Page 4, in the paragraph beginning on line 23, change as follows:

#### DETAILED DESCRIPTION OF THE INVENTION

Fig. 1 shows an embodiment for a local area network comprising 8 network interfaces 1 to 8 having each at least two ring connections for forming at least one ring. The local area network may also comprise one or various additional rings. When two rings

are used, the information may flow through the rings in opposite directions.

IN THE CLAIMS

Please cancel Claims 1-8, without prejudice.

Please add Claims 9-21 as follows:

9. (New) A local area network operating in the asynchronous transfer mode (ATM) for transmitting cells, said network comprising a plurality of network interfaces coupled to a ring via ring connections, the network interfaces each including a switch and a radio device for exchanging data with any one of a plurality of terminals provided that said any one of the plurality of terminals is located in the radio coverage area of the network interface, and in that the switch is provided for transporting the cells at least between ring connections and the corresponding radio device, wherein the switch includes a receive circuit assigned to a receive connection, in that each receive circuit is used for evaluating the header field of a received cell and in that on the basis of the information derived from the header field at least one receive circuit is used for extracting a switch mode from an assigned path memory, and wherein the path memory which is coupled to the receive connection coming from the radio device, stores a switch mode for a connection at least between two local terminals, in which mode the switch couples the receive and transmit connections connected to the radio device.

10. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory which is coupled to the receive connection coming from the radio device, stores a second switch mode for a connection at least between a local and a remote terminal, in which mode the switch couples the receive connection connected to the radio device and one transmit connection connected to a ring.

11. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory which is coupled to the receive connection coming from the radio device, stores a second switch mode for providing a connection between at least two local and at least one remote terminal, in which mode the switch couples the receive connection connected to the radio device to the transmit connection connected to the radio device and to a transmit connection connected to a ring.

12. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory which is coupled to the receive connection coming from the radio device, stores a second switch mode for a connection between a local terminal and the local controller, in which mode the switch couples the receive connection connected to the radio device to the local controller.

13. 14. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory

which is coupled to the receive connection coming from the radio device, stores a second switch mode for a connection between a local terminal and the local and at least one remote controller, in which mode the switch couples the receive connection connected to the radio device to the local controller and a transmit connection connected to a ring.

14 15. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory which is coupled to the receive connection coming from the radio device, stores a second switch mode for deleting cells which contain non-existing connections.

15 16. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory which is coupled to the receive connection coming from the radio device, stores:

a second switch mode for a connection at least between a local and a remote terminal, in which mode the switch couples the receive connection connected to the radio device and one transmit connection connected to a ring; and

a third switch mode for providing a connection between at least two local and at least one remote terminal, in which mode the switch couples the receive connection connected to the radio device to the transmit connection connected to the radio device and to a transmit connection connected to a ring.

17. (New) The local area network of Claim 9, wherein the switch mode is a first switch mode and wherein the path memory which is coupled to the receive connection coming from the radio device, stores a second switch mode for a connection between a local terminal and the local controller, in which mode the switch couples the receive connection connected to the radio device to the local controller; and

a third switch mode for a connection between a local terminal and the local and at least one remote controller, in which mode the switch couples the receive connection connected to the radio device to the local controller and a transmit connection connected to a ring.

18. (New) The local area network of Claim 16, wherein for a connection set-up, the controller stores the switch mode for a virtual link in at least one path memory.

19. (New) The local area network of Claim 18, wherein a VCI (Virtual Channel Identifier) and a VPI (Virtual Path Identifier) contained in a header field of a cell together feature a virtual link and in that the path memory for storing the type of connection, the type of cell and the switch mode is included in this identifier.

20. (New) The local area network of Claim 17, wherein for a connection set-up, the controller stores the switch mode for a virtual link in at least one path memory.

21.<sup>20</sup> (New) The local area network of Claim 20, wherein a VCI (Virtual Channel Identifier) and a VPI (Virtual Path Identifier) contained in a header field of a cell together feature a virtual link and in that the path memory for storing the type of connection, the type of cell and the switch mode is included in this identifier.

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Page 17, in the abstract, change as follows:

ABSTRACT

The invention relates to a local area network operating in the asynchronous transfer mode (ATM) for transmitting cells, comprising a plurality of network interfaces coupled to a ring by ring connections, each network interface including a switch. For providing a more flexible local area network, at least one network interface includes a radio device for exchanging data with at least one terminal located in the radio coverage area of the network interface. For controlling the cell transport within a network interface, a switch is provided.

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REMARKS

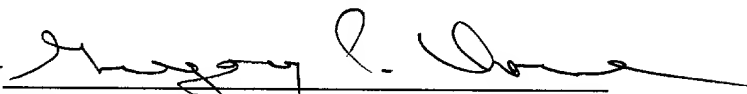
This amendment is responsive to the Office Action that issued January 12, 2001 and the Notice of Allowance that issued on July 3, 2001. In light of the above amendments and the following remarks, reconsideration and removal of the grounds for rejection are respectfully requested.

Applicant has added Claims 9-21 of commensurate scope as indicated allowable under paragraph 1, page 2 of the Office Action. No new matter is added by these amendments to the Claims so entrance thereof is respectfully requested.

The abstract is amended herein in accordance with the Examiner's suggestion and to place it in proper U.S. format. No new matter is added by this amendment to the abstract.

This amendment places the instant application in condition for immediate allowance and such action is respectfully requested.

Respectfully submitted,

By   
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Senior Patent Counsel  
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September 26, 2001

## APPENDIX

### AMENDED SPECIFICATION

Page 1, in the paragraph beginning on line 1, change as follows:

#### BACKGROUND OF THE INVENTION

The invention relates to a local area network operating in the asynchronous transfer mode (ATM) for transmitting cells, comprising a plurality of network interfaces coupled to a ring by ring connections, each network interface including a switch.

Page 1, in the paragraph beginning on line 27, change as follows:

#### SUMMARY OF THE INVENTION

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Page 4, in the paragraph beginning on line 12, change as follows:

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In the drawings:

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DETAILED DESCRIPTION OF THE INVENTION

Fig. 1 shows an embodiment for a local area network comprising 8 network interfaces 1 to 8 having each at least two ring connections for forming at least one ring. The local area network may also comprise one or various additional rings. When two rings are used, the information may flow through the rings in opposite directions.

Page 17, in the abstract, change as follows:

ABSTRACT:

~~Asynchronous transfer mode local area network having a ring structure with wireless terminals.~~

The invention relates to a local area network operating in the asynchronous transfer mode (ATM) for transmitting cells, comprising a plurality of network interfaces ~~(1 to 8)~~ coupled to a ring by ring connections ~~(29 to 32)~~, each network interface including a switch ~~(24)~~. For providing a more flexible local area network, at least one network interface ~~(1 to 8)~~ includes a radio device ~~(33)~~ for exchanging data with at least one terminal ~~(9 to 21)~~ located in the radio coverage area of the network interface ~~(1~~

to 8). For controlling the cell transport within a network interface, a switch (24) is provided.

~~Fig. 1.~~

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